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APPLICATION NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
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08/703,399 08/26/96 KURUMIDA T 862.811-CI

24M1/0417  
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EXAMINER
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HONG, S

ART UNIT	PAPER NUMBER
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2412

DATE MAILED:

04/17/97

This is a communication from the examiner in charge of your application.  
COMMISSIONER OF PATENTS AND TRADEMARKS

OFFICE ACTION SUMMARY

☒ Responsive to communication(s) filed on 8-26-96

☐ This action is FINAL.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 D.C. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire three month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 43-65 is/are pending in the application.

Of the above, claim(s) NONE is/are withdrawn from consideration.

☐ Claim(s) is/are allowed.

☒ Claim(s) 43-65 is/are rejected.

☐ Claim(s) is/are objected to.

☐ Claims are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on is ☐ approved ☐ disapproved.

☒ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☒ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been

☒ received.

☐ received in Application No. (Series Code/Serial Number)

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received:

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of Reference Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s).

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

-- SEE OFFICE ACTION ON THE FOLLOWING PAGES --

### **Part III DETAILED ACTION**

1. This action is responsive to communications: pre-amendment and application filed 8/26/96 which is a FWC of the application Ser. No. 08/155,656 filed 11/22/93.
2. The rejections of claims 43-49 and 54-60 under 35 U.S.C. § 102(e) as being anticipated by Cao and claims 50-53 and 61-65 under 35 U.S.C. § 103 as being unpatentable over Cao have been withdrawn as necessitated by the amendment.

#### ***Priority***

3. Receipt is acknowledged of papers submitted under 35 U.S.C. § 119, which papers have been placed of record in the file.

#### ***Drawings***

4. This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

#### ***Specification***

5. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

*Claim Rejections - 35 USC § 102*

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

7. Claims 43-46 and 54-57 are rejected under 35 U.S.C. 102(e) as being anticipated by Seto, U.S. Pat. No. 5,398,311, 3/95 (filed 2/88).

As per independent claim 43, Seto discloses the following claimed elements in an outline forming apparatus:

- means for storing font data which include coordinate information indicating position of basic outline points for forming an outline of a pattern having a predetermined weight, and movement information, provided for each of the basic outline points individually, for moving each of the basic outline points using weight information indicative of weight of a pattern as a parameter (col.5, line 12, "A character pattern ..is expressed by a dot train P0, P1, P2 ...." and col.3, line 2, "... reference character data is stored as coordinate point information on contours and which is provided arithmetic operating means ...[and] is enlarged or reduced in accordance with designated output size."; also see FIG.2B and col.5, lines 36-51);

- input means for inputting weight information indicating a desired weight of an outline of a pattern to be generated (col.5, line 55, "the output size designated by the keyboard ...and mouse...");

- generating means for generating an outline of the pattern having the weight indicated by the weight information input by said input means, said outline being generated from outline points which are obtained by moving the basic outline points based on said weight information, the coordinate information and the movement information (col.3, lines 6-20, "...with designated output size, the coordinate point information indicative of the main outer shape is first subject to arithmetic operation for enlargement or reduction by using the coordinate value information as the absolute values....").

As per dependent claim 44, which is dependent on claim 43, Seto discloses:

- judgement means for judging whether or not each of the basic outline points has non-zero movement information provided therefore and decision means for deciding the position of outline points for a pattern to be generated by moving each of the basic outline points having non-zero movement information provided therefor (col.6, lines 21-51; also col.6, line 54, "All of the values of FX ..., the offset values of the contour points indicative of the additional outer shape can be uniform or can be limited to a few kinds of values ..."; also FIG.2B and col.5, lines 24-51 that shows the means for determining the amount of non-zero movements.).

As per dependent claims 45 and 46, which are dependent on claims 43 and 45, respectively, Seto discloses an output means comprising a printer for outputting the patterns (col.4, line 28, "... a high speed printer ...serving as an image output section").

Claims 54-57 are for methods performed by the apparatus of claims 43-46, respectively, and are similarly rejected under the same rationale.

*Claim Rejections - 35 USC § 103*

8. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

9. Claim 65 is rejected under 35 U.S.C. § 103 as being unpatentable over Seto.

As per dependent claim 65, which is dependent on claim 54, although Seto does not explicitly disclose that the font data including coordinate and movement information is stored in a read only memory, such modification would have been obvious to a person of ordinary skill in the art, since Cao disclosed that the system was used for a printer and it was well known technology to store fonts information in ROMs of the printers.

10. Claims 47-53 and 58-64 are rejected under 35 U.S.C. § 103 as being unpatentable over Seto in view of Kokunishi et al., U.S. Pat. No. 4,897,638, 1/90 and Sakurai, U.S. Pat. No. 5,562,350, 10/96 (filed 4/89).

As per dependent claim 47, which is dependent on claim 43, as explained above Seto discloses the limitations of claim 43, but does not disclose the following two limitations of

claim 47: (1) the movement information includes position information indicating relative positions of outline points of the pattern having a weight different from the predetermined weight relative to the positions indicated by the coordinate information, and (2) path information indicating a moving path of the outline points, in conjunction with change of the weight, between the basic outline points and the relative positions.

As per the missing limitations, Kokunishi discloses an outline forming system using moving the control points (see FIG.5) and using the movement information of the points with respect to the different weight (col.3, lines 33-40). In the prior art, Kokunishi discloses the claimed element of: the movement information including position information indicating relative positions of outline points of the pattern having a weight different from the predetermined weight relative to the positions indicated by the coordinate information (col.9, lines 33-62, "Even a stroke of a same class can have various edge-side shapes ... for example, the starting edge-side may be added with serif or not and the ending edge-side is a straight line or a curve."). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have incorporated Kokunishi's invention into Seto, since Kokunishi explicitly provided the motivation in the disclosure by teaching that "the present invention ..provide[s] ...character patterns of high quality, while providing ...the feasibility of design change").

Still, Kokunishi and Seto is different from the claimed invention in that Kokunishi does not show the path information indicating a moving path of the outline points, in conjunction with change of the weight, between the basic outline points and the relative

positions. Although Kokunishi suggests varying the moving-path of the points so that different design styles can be assigned to different weights (col.9, lines 33-62, "*Even a stroke of a same class* can have various edge-side shapes.." suggests that different stroke class usually have different variance in the shape.) but does not explicitly show that in the prior art. However, varying the style of a character with respect to the scaling weight was well known technique in the art, as Sakurai disclosed a character forming invention "in which each vector character font is provided with an effective size range of character generation and with information on vector character font of a style to be used outside said effective size range, thereby enabling character output with an optimum vector character font according to the character size (col.1, lines 45-50)." Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have incorporated, in the invention of Seto and Kokunishi, the means to vary the relative positions of the points with each other to vary the style based on weight, since Sakurai provided the explicit motivation by teaching that it would have solved the problems in the prior art (such as in Seto) that when "characters of all sizes are formed from a vector character pattern of a same style, small characters are easily filled in and become illegible (col.1, line 24)" and "[i]mage quality is deteriorated in a large character size, if the vector character pattern is simplified in complex portion (col.1, line 33)."

As per dependent claims 48 and 49, which are dependent on claims 47 and 48, respectively, as explained with respect to claim 47, the prior art disclose the means for the path information changing based on the desired weight, but do not disclose that the path

information is indicated by a function. However, the use of functions for the path information would have been obvious to a person of ordinary skill in the art at the time the invention was made, since Kokunishi pointed out that in the font art, the contours of the characters were expressed by the functions (col.12, line 5, "a spline curve is used for interconnecting points ...shown in FIG.5, a bezier curve is used for interconnecting points ....").

As per dependent claims 50 and 51, which are dependent on claim 47, Kokunishi discloses that the position information indicating allowable amount of movement of each of the basic outline points and indicating the plural position information of outline points (see FIGs.11A and 11B). The rationale for varying the positions based on the weight was provided with respect to claim 47 and is incorporated herein.

As per dependent claims 52 and 53, which are dependent on claim 51, the prior art do not explicitly teach that the amount of movement of each of the basic outline points is restricted based on whether or not an outline containing a moved outline point intersects another outline containing another moved outline point (claim 52) or based on whether or not the basic outline point emerges from a body frame of the pattern (claim 53). Nevertheless, such means for limiting the movement in case of the interferences would have been obvious to a person of ordinary skill in the art at the time the invention was made, since Kokunishi explicitly taught that the means for limiting the movement was needed to avoid "blank portions between strokes [from] disappear[ing]... (col.7, lines 12+; also see Figs.17A, 17B, and 17C)."



Claims 58-64 are for methods performed by the apparatus of claims 47-53, respectively, and are similarly rejected under the same rationale.

***Response to Amendment***

11. Applicant's arguments with respect to claims 43-65 have been considered but are moot in view of the new ground(s) of rejection.

In the amendment, the claims have been clarified to state that each control point forming a character pattern has its own movement information. Accordingly, new searches have been made, and the new grounds of rejections have been introduced.

***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1. 5,295,240, Mar. 15, 1994, Apparatus and method for generating character pattern data; Kazuhiro Kajimoto, 395/172
2. 5,519,412, May 21, 1996, Pattern processing method; Kiyoshi Watanabe, 345/128
3. 5,473,743, Dec. 5, 1995, Character generator with selectable conversion; Kiyoshi Watanabe, 395/17

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13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steve Hong whose telephone number is (703) 308-5465. The examiner can normally be reached on Monday-Friday from 8:00 AM-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather Herndon, can be reached on (703) 305-9701. The fax phone number for this group is (703) 305-9724.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

The Group and/or Art Unit location of your application in the PTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Group Art Unit 2412.

  
Stephen Hong

Patent Examiner

April 11, 1997

  
HEATHER R. HERNDON  
SUPERVISORY PATENT EXAMINER  
GROUP 2400